

7. The two-stage turbopan system of claim 1 wherein: the second-stage fan shaft comprises:
- a downstream portion connected to the drive shaft;
 - an upstream portion connectable to a high speed fan stage; and
 - an intermediate portion connected to the ring gear;
- the downstream portion of the first-stage fan shaft extends axially from the gear carrier in an upstream direction such that an upstream portion of the first-stage fan shaft is connectable to a low speed fan stage; and
- the downstream portion of the stationary torque tube extends axially from the sun gear in an upstream direction such that an upstream portion of the torque tube is connectable with an inlet guide vane.
8. The two-stage turbopan system of claim 7 wherein the intermediate portion of the second-stage fan shaft includes a radially extending bulge connected to an outer diameter of the gear system such that the radially extending bulge includes a diameter greater than that of the upstream and downstream portions of the second-stage fan shaft.
9. The two-stage turbopan system of claim 7 wherein the first-stage fan shaft is disposed radially between the stationary torque tube and the second-stage fan shaft.
10. A drive system for a two-stage turbopan gas turbine engine, the drive system comprising:
- a first shaft system connected to a turbine within the gas turbine engine for driving a high speed fan stage section;
 - a static torque tube disposed coaxially with the first shaft system, the static torque tube being anchored to the gas turbine engine in a non-rotating fashion;
 - a planetary gear system coupled between the first shaft system and the static torque tube, the planetary gear system comprising:
 - a static sun gear positioned around the static torque tube;
 - a gear carrier positioned concentrically around the sun gear;
 - a plurality of planet gears positioned in the gear carrier such that the planet gears interface with the sun gear; and
 - a ring gear positioned concentrically around the gear carrier such that the ring gear interfaces with the plurality of planet gears and the first shaft system; and
 - a second shaft system connected to the gear carrier of the planetary gear system for driving a low speed fan stage section.
11. The drive system for a two-stage turbopan gas turbine engine of claim 10 wherein the first shaft system comprises a high speed fan shaft comprising:
- a first end for connecting with a turbine drive shaft;
 - a second end for connecting with a high speed fan blade rotor; and
 - an arched middle portion for connecting with the ring gear of the planetary gear system;
- wherein outer diameters of the middle portion and the second end are extended radially farther than an outer diameter of the first end.
12. The drive system for a two-stage turbopan gas turbine engine of claim 11 wherein the second shaft system comprises a low speed shaft, and wherein the static torque tube

extends axially forward from the sun gear and the low speed shaft extends axially forward from the gear carrier such that the low speed shaft is disposed concentrically between the static torque tube and the high speed shaft.

13. The drive system for a two-stage turbopan gas turbine engine of claim 12 wherein the low speed shaft is connected to a low speed fan blade rotor, wherein the low speed fan blade rotor is disposed axially forward of the high speed fan blade rotor.

14. The drive system for a two-stage turbopan gas turbine engine of claim 12 wherein the first and second ends of the high speed fan shaft are supported by bearings mounted to stationary struts within the gas turbine engine, and the low speed fan shaft is supported by a bearing positioned between the high speed fan shaft and the low speed fan shaft.

15. The drive system for a two-stage turbopan gas turbine engine of claim 10 wherein the planetary gear system reduces the rotational output speed of the second shaft system to about eighty-three percent of that of the first shaft system.

16. The drive system for a two-stage turbopan gas turbine engine of claim 10 wherein a forward end of the static torque tube is connected with an inlet guide vane of the gas turbine engine.

17. A gear system for use in a two-stage turbopan engine, the gear system comprising:

- a static shaft for connection to a non-rotating member of the turbopan engine;
- a sun gear affixed to the static shaft such that it is non-rotating about the static shaft;
- a gear carrier positioned concentrically around the sun gear, the gear carrier comprising:
 - a plurality of gear slots circumferentially disposed about a circumference of the gear carrier;
 - a plurality of journal pins extending through the plurality of gear slots;
 - a plurality of planet gears disposed about the journal pins within the gear slots such that the planet gears interface with the sun gear; and
 - a plurality of torque slots extending through the gear carrier between the plurality of gear slots;
- a ring gear positioned concentrically around the gear carrier such that the ring gear interfaces with the plurality of planet gears;
- a first-stage drive shaft connected to the torque slots and extending axially from the gear carrier for connection to a first-stage fan;
- a first conical drive shaft connected to the ring gear and extending axially from the ring gear in a first direction for connection to a second-stage fan; and
- a second conical drive shaft connected to the ring gear and extending axially from the ring gear in a second direction for connection to an input turbine shaft.

18. The gear system of claim 17 and further comprising:

- a plurality of spray bars disposed between the plurality of planet gears and configured for riding in circumferential grooves within the plurality of planet gears; and
- an oil manifold connected to the gear carrier and configured for dispersing oil to the plurality of spray bars.

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